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The Role of Unions in Inflation: A Survey Article
Les syndicats et l'inflation

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Résumé de l'article

Il existe de grandes divergences de vues sur le rôle des syndicats dans l'inflation. À une extrémité, on trouve des auteurs comme Haberler, Joan Robinson, Phelps Brown, Hicks, James Meade et Hayek parmi les penseurs des générations passées et, plus près de nous Weintraub, Mitchell, Eckstein, Hines et Ashenfelter. Ceux-ci croient unanimement que l'influence des syndicats sur l'évolution des hausses de salaires est exogène. À l'opposé, il y a des auteurs comme Friedman parmi ceux qui ont abordé la question dans beaucoup de situations économiques diverses depuis la deuxième guerre mondiale et Wachter chez les économistes plus jeunes. Ces derniersont tendance à considérer que les syndicats sont des institutions qui réagissent aux situations. Pour eux, l'inflation résulterait de politiques monétaires et fiscales qui sont incompatibles avec des prix stables. Les syndicats deviennent alors partie du contexte dans lequel ces politiques sécrètent leurs conséquences inflationnistes.

La présente étude décrit le large éventail de points de vue que ces auteurs ont exprimés sur le rôle des syndicats en tant que responsable de l'inflation et sur leurs réactions vis-à-vis celle-ci. Un système de classification, qui a été suggéré par J.S. Trevithick et C. Mulvey dans*The Economies of Inflation*, y est utilisé pour diviser les auteurs par catégorie. D'une façon générale, la classification est restreinte à la réaction des syndicats aux diverses conditions de l'excès de la demande et aux conséquences qui en résultent sur le processus de l'inflation.

L'étude s'efforce ensuite de décrire les moyens par lesquels les auteurs ont mesuré le pouvoir des syndicats tel que cela est reflété dans les écarts salariaux entre syndiqués et non syndiqués. En premier lieu, elle explique les exposés dans lesquels on a utilisé un indice de dispersion des salaires pour mesurer cette dispersion parmi les gains moyens par industrie. Le but de ces exposés est d'identifier les tendances possibles dans la dispersion des salaires de façon à relier indirectement chacune des tendances que l'on a pu déceler là où elles étaient réglées par les syndicats. On y a trouvé une nette tendance à la hausse dans l'indice de dispersion, mais son rattachement au rôle des syndicats n'est pas satisfaisant. Un deuxième indice consiste dans une mesure qui trace le rapport des gains industriels attribuables à l'importance de la syndicalisation en regard des gains horaires moyens dans le secteur privé non agricole. On n'observe aucune tendance marquée dans cette mesure, même si celle-ci montre des changements significatifs pour quelques sous-groupes de travailleurs. Au cours de la décennie 1970, l'expérience varie beaucoup: un diagramme illustrant le rapport des gains horaires moyens pour les industries sélectionnées en regard des gains privés non agricoles présente une étonnante diversité. Une troisième mesure décrit les changements de salaires effectifs entre les salaires des travailleurs syndiqués et des travailleurs non syndiqués tels que catalogués par le Bureau des statistiques du travail dans son enquête sur le*Current Wage Development.* Celle-ci indique un avantage constant en faveur des travailleurs syndiqués. Des réserves doivent être apportées pour ce qui doit être mesuré par ces statistiques et pour la signification que l'on trouve dans des études récentes sur les caractéristiques exogènes ou endogènes des syndicats.

Les études sur le militantisme des syndicats en tant qu'aspect distinct de leur rôle sont ensuite discutées et évaluées. On y découvre que Hines, Ashenfelter et autres de même que Swidinsky ont contribué d'une façon significative à ce débat, mais que leurs découvertes sont marquées par la préoccupation de ce qui est mesuré, par exemple, la résistance des employeurs et le militantisme des syndicats d'une part et, d'autre part, la réaction des membres et le militantisme des syndicats tels que décrits par Hines dans son travail originaire.

L'article conclut par la discussion de ce que nous savons au sujet des rapports entre les syndicats et l'inflation. Il se termine sur une note sceptique. Malgré qu'un grand effort ait été déployé, on ignore même les données de base. Les grands problèmes d'identification restent encore à résoudre.

The Role of Unions in Inflation
A Survey Article

C.G. Williams

Wide divergence of views exists on the power of unions to influence the general wage level. This paper contrasts selected views. A modified Trevithick/Mulvey classification of union reaction to escess demand for labour is used to classify writers. A second part examines questions of union power and militancy.

Since the early 1970s interest has been rekindled in the question of the role of unions in inflation. It is an important question particularly in view of the secular acceleration of price and wage increases over the last twenty-five years. The answers vary widely both in the estimate of the role and in the complexity of approach. An example of a simple approach may be seen in the way in which Michael Wachter ends his appraisal and discussion of a complex article by Daniel Mitchell on "Union Wage Determination: Policy Implications and Outlook":

"I see little evidence in this paper to support an argument that unions are a source of today's inflation problem. In the early 1960s the average inflation rate was approximately 1.5 percent. Today, the 'built-in' inflation rate appears to be approximately 7 percent. Are labor unions stronger today than they were in the 1950s and 1960s? What is the mechanism through which they have somehow managed to boost the inflation rate?

In the political arena, labor unions have lost as many battles as they have won in the past few years. The defeat of the labor reform bill of 1978 is an important indicator of the political strength of unions... (I)f a 'threat effect' exists (in the nonunion sector) from the unionized sector... it was stronger in the noninflationary 1950s than in the inflationary 1970s."[1]

The apparent self-evident truth of these remarks did not end the discussion. One reason for this is that there are equally simple and intuitively appealing arguments supporting the contrary position. In almost every year

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1 Daniel J.B. MITCHELL, "Union Wage Determination: Policy Implications Outlook", *Brookings Papers on Economic Activity* 3, 1978, pp. 588-9.

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since 1959, when data first became available, median union wage adjustments have exceeded those of nonunion establishments, and in every year they have exceeded average increases in labor productivity[2]. This must give some a priori basis for believing that union workers fare better on average than nonunion workers and that they have access to a power source which provides a continual growing advantage relative to the nonunion workforce. The OECD Expert Group investigating the problem of rising prices concluded in 1961 that "any study of how the labor market has operated leaves no reasonable doubt that something besides market forces was at work."[3] This conclusion was based however on indirect evidence, namely, the lack of correlation between changes in wages by industry and changes in employment, the stability of the wage structure, the downward inflexibility of wages, and the size of wage increases. Analysis might therefore inhibit certainty, but it seems clear that the simple conclusions can be dangerously deceptive.

Union membership in the United States is today at an all-time high. United States membership in national unions in 1978 reached 23,307,000, distributed among 174 unions and 34 employee associations. There were also 374,000 members in single-firm and local unaffiliated unions, and 235,000 members in municipal employee associations[4]. In total, union membership as a percentage of nonagricultural employment stood at 24.0. When association membership is included, this figure becomes 27.1 percent[5].

The incidence of union membership and of collective bargaining coverage varies among geographical areas and industrial sectors. In 1978 union members as a percent of employees in nonagricultural establishments ranged from 39.2 percent in New York State to 6.5 percent in North Carolina[6]. In coal and metal mining, construction, transportation and public utilities most wage earners are union members. Some 75 percent of production and non-supervisory workers in manufacturing are employed in union establishments, accounting for roughly one half of all workers covered by collective bargaining agreements in the private sector[7]. However, parts of manufac-

2 U.S. Department of Labor, *Handbook of Labor Statistics,* 1980 and Current Wage Developments, 32, 5, May 1981.

3 W. FELLNER et al., *The Problem of Rising Prices,* Paris, OECD 1961, p. 48.

4 U.S. Department of Labor *Directory of National Unions and Employees Associations, 1979,* BLS Bulletion No. 2079, September 1980, Table 5, p. 47.

5 *Ibid.,* Table 5, p. 59.

6 *Ibid.,* Table 18, p. 71.

7 U.S. Congress, Joint Economic Committee, "Union and Non-Union Changes, 1959-1972" by Martin ESTEV. *Price and Wage Control: An Evaluation of Current Policies,* Hearings before the Joint Economic Committee, 92nd Congress, 1972, p. 323.

turing, in particular, textiles, are only slightly unionized. In trade, service industries, state and local governments, finance and insurance, and agriculture unionism is generally weak, though here again there is considerably variation by geographic region.

Opinions vary on whether the extent of unionism and of collective bargaining coverage in the United States is extensive or insignificant. John Dunlop or Otto Eckstein would probably say that the union impact is substantial. A sizeable portion of economic activity is directly covered by collective bargaining agreements and since most of the key sectors are unionized, a further important segment of the nonunion sector is effectively influenced and controlled by the union sector[8]. Edmund Phelps on the other hand has argued that since only one in four of all workers is a union member it is reasonable to ignore the influence of unionism[9].

But the question of the role of unions in inflation, or indeed in other aspects of economic activity such as the relative wage structure, or the distribution of functional income between labor and capital or between union and nonunion labor does not necessarily hinge on the extent of union coverage. Alfred Marshall put it this way:

"Trade combinations, alliance, and counter-alliances among employers and employed... present a succession of picturesque incidents... which arrest public attention and seem to indicate a coming change of our social arrangements now in one direction and now in another; and their importance is great and grows rapidly. But it is apt to be exaggerated... And though they are on a large and more imposing scale... than ever before; yet now, as ever, the main body of movement depends on the deep silent strong stream of the tendencies of normal distribution and exchange."[10]

A basic question regarding the role of unions in the determination of the money wage level is to ask how different the money wage level would be if the labor force were completely nonunion compared with the reality of its being partly union. If unions make no difference then the change in the money wage level at any given level of excess demand would be like the nonunion case. It would rise at all positive levels of excess demand and would probably also rise at small levels of excess supply of labor because of the

8 O. ECKSTEIN and T.A. WILSON, "The Determination of Money Wages in American Industry", *Quarterly Journal of Economics* 86, August 1962; John T. DUNLOP (Ed.), *The Theory of Wage Determination,* London, Macmillan, 1957, p. 25.

9 Edmund S. PHELPHS, "Money Wage Dynamics and Labor Market Equilibrium", *Journal of Political Economy,* 76, 4, Part II, July-August 1968, p. 680.

10 Alfred MARSHALL, *Principles of Economics,* London, Macmillan, 8th edition, reprinted 1952, pp. 521-2.

uneven distribution of vacancies and unemployment, and the nonlinearity of wage responses where wages are inflexible downwards[11].

In a recent book on *The Economics of Inflation* Trevithick and Mulvey[12] describe various hypothetical union reaction functions, showing the different ways in which the existence of unions might alter the response of the money wage level to various levels of excess demand for labor. A modified version of their diagram is reproduced here as Figure 1. The situations depicted are linear, non-accelerating, and are responses to the single variable of excess demand for labor and therefore to some extent unrealistic. In the first place, in reality the reaction functions are certainly not linear. Second, even though Lipsey argues[13] that there is no obvious accelerator mechanism, this directly contradicts the Friedman-Phelps thesis[14]. Finally, union reaction functions are not necessarily most strongly influenced by excess demand but rather by past price changes, expected price changes or relative wages, which are not necessarily dependent upon the level of excess demand[15].

This latter qualification is particularly important because writers have tended to be concerned with the role of unions in situations characterized by various levels of excess demand, E_D, if only because stagflation is relatively new. However, the union/nonunion wage change differential, $\dot{W}_u/\dot{W}_{nu}$ responds to other variables too, and possibly even to an extent that overshadows the response to excess demand. Thus if we have a case as at present where prices are rising at a 9-10 percent rate and some unions have substantially compensatory COLA clauses then they will pull away from less strategically placed union and nonunion groups. This is almost certainly one of the factors in the current changing structure.

Conditions in which unions will give an inflationary bias to the system (assuming (1) that the percentage of the labor force receiving the union wage is constant, and (2) the union/nonunion wage change differential is attributable only to unionism), may be classified as follows:

11 R.G. LIPSEY, "The Relation Between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom: 1862-1957: A Further Analysis", *Economica,* February 1960.

12 J.A. TREVITHICK and C. MULVEY, *The Economics of Inflation,* London, Martin Robertson, 1975, p. 88.

13 R.G. LIPSEY, "The Place of the Phillips Curve in Macroeconomic Models", in A.R. Bergstrom et al. (Eds.), *Stability and Inflation,* New York, Wiley, 1978, p. 67.

14 M. FRIEDMAN, "The Role of Monetary Policy", *American Economic Review,* April 1968; E.S. PHELPS, *op. cit.*

15 The development of these more comprehensive and alternative explanatory systems is described in T.M. HUMPHREY, "Some Current Controversies in the Theory of Inflation" and "Some Recent Developments in Phillips Curve Analysis", reprinted in T.M. Humphrey, *Essays on Inflation,* Richmond, Va., Federal Reserve Bank of Richmond, 1980.

a) if, at all levels of E_D there is a $\dot{W}_u/\dot{W}_{nu}$ wage change differential, we have case 2 or 4.

b) if, as the level of E_D increases the $\dot{W}_u/\dot{W}_{nu}$ wage change differential decreases until it becomes zero, we have case 3.

c) if, as the level of E_D increases the $\dot{W}_u/\dot{W}_{nu}$ wage change differential is constant or increases, we have case 2.

d) if, as the level of E_D increases the $\dot{W}_u/\dot{W}_{nu}$ wage change differential decreases, we have case 5.

e) if there is a spillover mechanism which runs from the U sector to the U_n sector when $E_D < B$, then the assumption that the percentage of the labor force receiving the union wage will apply to the whole labor force, so that the system is more inflationary than where there is no such spillover.

The Trevithick-Mulvey classification of possible responses is interesting in part because it shows the important cases, but also because each response has its academic adherents. Many of these with widely divergent views have written extensively on the topic and have generalized their conclusions.

Case 1. That unionism does not affect the outcome of the market process, so that

$$\dot{W}_u = x + aE_D;\ a > O;\ \dot{W}_u = \dot{W}_{nu}$$

Among writers who have subscribed to this view are writers as diverse in background and interest as Alfred Marshall, Phelps Brown, Edward Phelps, and Michael Wachter. Here, however, we will describe only Wachter's position.

MICHAEL S. WACHTER

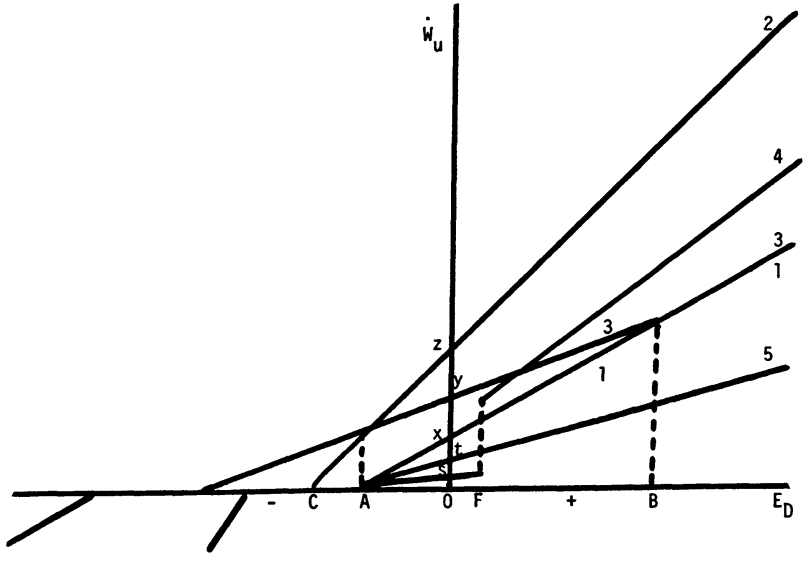
Michael Wachter discusses the role of unions in inflation in the post-1950 years and concludes that it has been of minor significance[16]. He bases his view on the absence of any trend in the union-nonunion wage dif-

16 M.L. WACHTER and S.M. WACHTER, "Money Wage Inflation: The Endogeneity - Exogeneity Issue", in S. Weintraub (Ed.), *Modern Economic Thought,* University of Pennsylvania Press, 1977, pp. 322-5. For the continuing development of his views, see M.L. WACHTER and O.E. WILLIAMSON, "Obligational Markets and the Mechanics of Inflation", *The Bell Journal of Economics,* 9, 2, Autumn 1978, pp. 561-2, and M.L. WACHTER and S.M. WACHTER, "Institutional Factors in Domestic Inflation", in F.E. Morris, *After the Phillips Curve: Persistence of High Inflation and High Unemployment,* Boston, Federal Reserve Bank of Boston, 1978, pp. 151-3.

ferential since 1950, and the decreasing likelihood over time that nonunion employers act under a threat of unionization. Hence the theory that there is a substantial spillover from union wage change into the nonunion sector has become increasingly less credible.

FIGURE 1

Hypothetical Union Reaction Functions



1. $\dot{W}_u = x + aE_D$; $a > O$; $\dot{W}_u = \dot{W}_{nu}$.
2. $\dot{W}_u = z + dE_D$; with $\dot{W}_u = O$ at $E_D < A$; $d > a$ and $z > x > O$.
3. $\dot{W}_u = y + bE_D$; $b > a$, and $> y > x$ for $E_D < B$; $b = a$ for $E_D \geq B$.
4. $\dot{W}_u = s + gE_D$; $g < a$ for $E_D \leq F$ and $g > a$ for $E_D > F$; $s < x$.
5. $\dot{W}_u = t + hE_D$; $h < a$ and $x > t > O$.

$\dot{W}_u$ is the rate of change of union wage rates; $\dot{W}_{nu}$ the rate of change of nonunion wage rates; and E_D is the level of excess demand for labor.

Wachter appears to be one writer, however, whose views on the inflation process are rapidly evolving. In recent works which carry his name certain basic ideas are becoming distinguishable:

a) that there is a strong intuitive case for believing that unions are not a significant factor in the inflation process in the U.S.

b) that the money supply is an essential ingredient in the inflation process. However, the explanation which relies on a combination of union cost-

push and an accommodative monetary policy is not substantiable. In his view, for the inflation process to continue the money supply must be accommodative. However, this is not inconsistent with the view that the cause of the inflation was excessive growth of the money supply. In this sense he, therefore, becomes distinguished from such cost-push writers as Phelps Brown, Hicks, and Joan Robinson. In the latters' systems a passive money supply adapts to the "needs of trade" or to the needs of a full employment policy which has been jeopardized by union cost-push pressures.

c) that the money supply is the exogenous factor in inflation. However, he concedes the possibility of union cost-push pressures emanating from the federal government and the construction industry. These, he asserts, are a small part of the overall inflation problem.

d) that the money supply is a control and not a response variable. To the extent that it is accommodative the reason is that the short-run economic and political costs may be high. However, these costs are not necessarily union-related. Thus, the money supply can be an effective control variable only if an appropriately long time horizon is adopted, with the short-run real output costs being a necessary part of the disinflation process.

Case 2. biases the outcome of the market process such that

$$\dot{W}_u = z + dE_D; \text{ with } \dot{W}_u = O \text{ at } C < A; d > a, \text{ and } z > x > O.$$

Writers whose interpretation of facts or whose analyses have led them to subscribe to this view include, among others, Haberler — who might well be taken as representing the Liberalist school of economic philosophy, and Joan Robinson a leading representative of contemporary socialist thought.

HABERLER

In the postwar debate on the role of unions in the inflationary process, Haberler is unquestionably one of the most profound and consistent advocates of the significance of wage-push. Among the Liberalists he is the most systematic thinker and the most conscious that apparent contradictions among Liberalists should be reconcilable. In his view of the economic system, economic growth proceeds in a cyclical fashion. Within this cyclical framework union power is reflected in a more rapid growth of wages and prices in the boom and in greater downward inflexibility in the recession.

In his early work on *Prosperity and Depression* Haberler recognized that wages were income as well as costs. Hence, in the absence of a full em-

ployment policy the more rapid upward thrust of wages could raise the ceiling, and the downward inflexibility of wages could lessen the severity of the recession[17].

However, given a full employment policy the more rapid growth of wages reduces the ceiling in the boom and the greater downward inflexibility enhances the tendency for wages to rise in a recession. Thus the sytem becomes inherently inflationary and the existence of unions frustrates the high employment policy.

The dilemma thus posed for society can be overcome by the adoption of wage and/or price controls or by curbing union power. The social costs of all options — accelerating inflation, unemployment, and controls — other than curbing union power are high. Therefore, the proper alternative is to reduce union monopoly power by removing the immunities and privileges that constitute the source of that power.

JOAN ROBINSON

Few writers give unions such a crucial role in the workings of the economy as does Joan Robinson. In fact, the survival of capitalism hinges on unions having the right amount of economic power. Union power in the determination of the economy's propensity to spend, and the size and nature of the public sector's spending, together determine whether the economy falls into stagnation or explodes in hyper-inflation. Capitalism's inherent contradictions can be offset only by an appropriate public sector spending program and a labor movement with the correct amount of power[18].

What are these contradictions? The secular growth in monopoly reduces consumers' sovereignty and increases the degree of exploitation of labor and consumers. It decreases the share of income going to labor and consumers and thereby reduces the profitability of new investment. If then the labor force is constant and disinvestment occurs, or if the labor force grows while net investment stays the same, the system will become increasingly stagnant.

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17 G. HABERLER, *Prosperity and Depression: A Theoretical Analysis of Cyclical Movements,* Geneva, League of Nations, 1973; also, "Wage Policy, Employment and Economic Stability", in D. McCord Wright, *The Impact of the Union,* New York, Kelley and Millman, 1951, pp. 49-50; also *Economic Growth and Stability,* Los Angeles, Nash, 1974.

18 Joan ROBINSON, "Full Employment and Inflation" (1958), in *Collected Economic Papers,* Vol. 2, Oxford, Blackwell, 1964, p. 278. See also C.G. WILLIAMS, "Joan Robinson on Unions, Distribution and Inflation", *Relations industrielles,* 36, 3, 1981, pp. 576-588.

Similarly, in conditions of technical progress output growth is accompanied by decreased unit costs of production. But the ubiquity of product market imperfection and the growth of product monopoly inhibits downward flexibility of prices. Thus in the absence of institutional arrangements to ensure commensurate increases in money incomes there would be an increasing surplus of consumer goods, a decline in the propensity to invest, and thus again a tendency towards stagnation[19].

What keeps the system going? Even more pointedly, what was the essence of the unprecedented prosperity of the industrial world in the 1960s? The answer from Joan Robinson's standpoint lies in the public sector income transfer and job creation programs, the arms race, union successes in collective bargaining, and the expansion of labor-absorbing service activities, both public and private. This answer constitutes to Joan Robinson the ultimate denial of the ability of capitalism to survive except by reliance on public-sector-initiated consumption and by a fine balance of union power.

To Joan Robinson an increase in the quantity of money is a necessary but not a sufficient condition of inflation, but even then only for high and continuing rates of inflation. In her system the essence of inflation is a rapid and continuous rise of money wages. Without rising wages inflation cannot occur[20]. The driving force is the money wage level and there is no doubt but that she would have us believe that the quantity of money, is a necessary but not a stringent condition of inflation, having at almost all times enough tolerance for substantial increases in prices[21].

Case 3. biases the outcome of the market process such that

$$\dot{W}_u = y + bE_D;\ b > a \text{ and } z > y > x \text{ for } E_D < B;\ \text{and } b = a \text{ for } E_D \geq B$$

Many studies can be identified with this view of the union reaction function. From the scholars represented by these studies we will select only Charles Holt.

CHARLES HOLT

Holt's interest in the relationship between the wage advantage of union workers and the level of excess demand for labor stems from his desire to

19 J.A. KREGEL, *The Reconstruction of Political Economy,* London, Macmillan, 1973, p. 85.

20 Joan ROBINSON, "The Economics of Hyper Inflation", (1958), in *Collected Economic Papers,* Vol. 1, Oxford, Blackwell, 1961, p. 71.

21 Joan ROBINSON, *The Accumulation of Capital,* London, Macmillan, 1956, p. 240.

show how a Phillips relation between wage change and unemployment can be derived using labor market behavioral variables. His approach is based on his belief that the upward drift of money wages has its source in these variables. This upward drift is transmitted recursively to prices via a mark-up process[22].

In Holt's model the advantage to collective bargaining compared to individual bargaining varies positively with the unemployment rate. This advantage is based on the differential effects of varying unemployment rates on the ratio of strike cost to employer and union (strike cost ratio Company/Union) compared with the quit cost ratio to company and worker. For many reasons, as unemployment rises the bargaining power of the individual worker falls more rapidly that does that of the union. Consequently at levels of unemployment above a certain rate, there is a wage advantage associated with worker participation in collective bargaining. Conversely, at some low level of unemployment the advantage shifts to individual bargaining as jobs become plentiful and replacements hard to find. At higher rates of unemployment the union threat to strike (i.e., to collectively quit temporarily) is less important than the quit threat (i.e., to individually quit permanently) so the union differential tends to disappear.

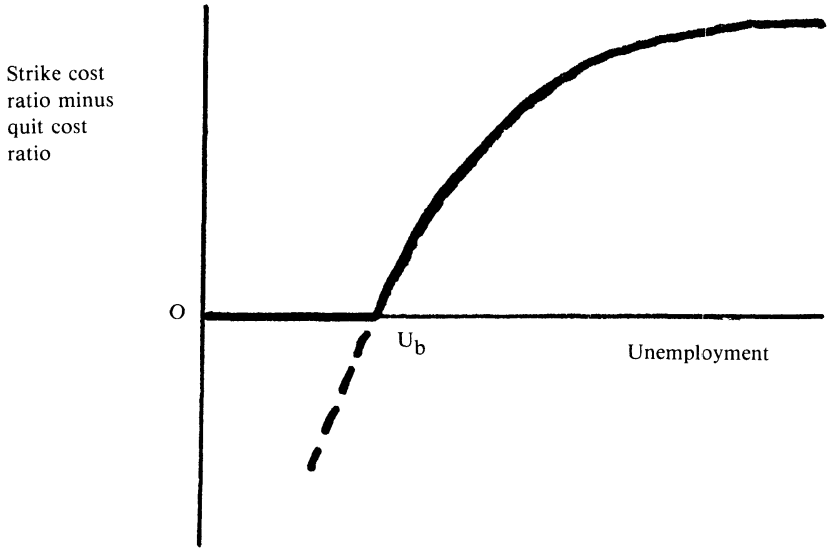
The analysis in Holt's discussion is more complex than is suggested here but in simple terms it means that "as the quit threat becomes dominant over the strike threat the market tends to behave more and more like a free market with only individual bargaining."[23] This result is illustrated in Figure 2. At unemployment rates over U_b the collective bargaining advantage increases up to some maximum level, while at unemployment rates below U_b the union advantage becomes negative though the individual union member retains the right to quit and thus to simulate the conditions of individual bargaining.

22 Charles C. HOLT, "Job Search, Phillips' Wage Relations, and Union Influence: Theory and Evidence", in E.S. Phelps, *Microeconomic Foundations of Employment and Inflation Theory,* New York, Norton, 1970.

23 *Ibid.,* p. 84.

FIGURE 2

Collective Bargaining Advantage Over Individual Bargaining



Source: See footnote 23.

Case 4. biases the outcome of the market process such that

$\dot{W}_u = s + gE_D$; $g < a$ for $E_D \leq F$; and $g > a$ for $E_D > F$; $s < x$

JOHN T. DUNLOP

The most noted representative of this class of ideas is John T. Dunlop. It could even be true that many economists who do not write on the subject of unionism would find themselves in agreement with Dunlop's basic position.

In Dunlop's view, the totality of monetary and fiscal policies is the key to economic stability. At an earlier stage in his career Dunlop was optimistic that with the spread of collective bargaining and with its increased social and political acceptance collective bargaining could absorb or cushion some

of the effects of "unwise" monetary and fiscal policies[24]. However, Dunlop's view of the role of collective bargaining is now considerably more complex. Collective bargaining will not absorb or cushion "large effects" or "persistent effects" of unwise monetary and fiscal policies. Should the latter be "not appropriate" for stability, collective bargaining will not stabilize and may be destabilizing. In his view, collective bargaining is only one of many factors that can have some impact upon the process of inflation. Monetary and fiscal policy can be inappropriate for stability; collective bargaining agreements may be inconsistent with stability; bottlenecks may develop in the production process and these may generate general price pressures in the context of high employment. By the same token, collective bargaining may lessen the impact of other destabilizing forces, and monetary and fiscal policy can also have this effect[25].

In arriving at this rather broad view of the place of unionism in the wage-price process, Dunlop draws on a lifetime of intellectual activity as teacher, writer, arbitrator and mediator, and administrator, in both academic and public service at national levels of status and recognition. Ideologically, he is in basic agreement with the philosophy of the system of labor relations laws and with the general state of balance (or imbalance) in labor-management relations and internal union relations which have evolved under the aegis of those laws. He holds the existence and practice of unionism to be basically consistent with the attainment of reasonable degrees of satisfaction of the generally accepted social goals of high employment, price stability, international payments balance, labor peace, economic growth, equitable income and earnings distributions, and efficient decentralized price-output decision making.

In Dunlop's view, unions are political institutions which make economic decisions in a political/economic environment. They are, therefore, part of an administered price system with union leadership having varying degrees of autonomy in the setting of union goals and varying degrees of constraints in the attainment of those goals.

Case 5. biases the outcome of the market process such that

$$\dot{W}_u = t + hE_D;\ h < a \text{ and } x > t > O$$

24 John T. DUNLOP, "Wage-Price Relations at High Level Employment", *American Economic Revies,* 37, 2, May 1947. Also C.G. WILLIAMS, "John Dunlop and Phelps Brown on the Role of Unions in Inflation", *Labor Studies Journal,* 5, 3, Winter 1981.

25 D.C. BOK and John T. DUNLOP, *Labor and the American Community,* New York, Simon and Schuster, 1970, espec. Ch. 10, "Collective Bargaining and Inflation".

MILTON FRIEDMAN

The economist who best represents this view is Milton Friedman, one of the leading modern day Liberalists. While Friedman's views on the appropriate policy that society should adopt towards labor unions may not differ from the typical Libertarian view, the alleged role of unions described here is not part of Friedman's rationale. Friedman's views stem from the belief that unions violate economic freedom and in some circumstances provide support for cartelization and monopoly in business. His policy recommendations follow from his belief that, in the absence of unions, either the economy is basically competitive or that adding unions to an imperfectly competitive system further decreases the system's competitiveness.

To Friedman the main impact of unionism is redistributive, altering the structure of relative wages, prices, and employment opportunities. Unionism also raises the natural rate of unemployment — that rate which alone is consistent with non-accelerating inflation or deflation. To Friedman, a change in union power is a once-for-all change in the degree of union monopoly resulting in once-for-all changes in the structure of resource allocation.

Writing in 1951, Friedman expressed the view that the danger in the relationship between unions and inflation was not that strong unions would cause inflation but rather that inflation would produce strong unions. In continued inflation he said:

"... the rigidity effects of unions would tend to become weaker relative to their upward pressing effects, for two reasons. In the first place, employers would come to expect continued inflation, and so attach less importance to the difficulty of subsequently lowering wages once raised. In the second place, the increased economic strength of the unions produced by the inflation would mean greater power to force wage increases, i.e. greater upward pressure."[26]

Given the appropriate monetary policy Friedman agreed that cost-push could originate from labor unions or indeed any strongly organized groups such as farmers or automobile producers. But it would be accompanied by unemployment. While logically possible, cost-push inflation would be empirically unimportant.

Thirty years later, Friedman no longer denies that unions may be strong, whether in consequence of many years of inflation or of the many factors that might have increased union power over the years. At this late date there is the possibility that unions are strong, but despite this they do not cause inflation. In his words

26 M. FRIEDMAN, "Some Comments on the Significance of Labor Unions for Economic Policy", in D. McCord Wright (Ed.), *The Impact of the Union, op. cit.*, p. 231.

"I am not saying that the existence of strong unions may not be one of the factors that... affects what monetary policy is. But... it is just one of many influences. What produces the inflation is not trade unions, nor monopolistic employers, but what happens to the quantity of money."[27]

As we view his extensive writings, it is probably true to say that Friedman would rewrite his 1951 paper in virtually unamended form as his continuing view of the role of unions in inflation.

DISTINCTION BETWEEN UNION POWER AND UNION MILITANCY

This is especially important in a study of the impact of unions, both on the wage structure and the wage level. It could be said, for example, that the more powerful unions are, the more militant they are. The concepts are distinguishable and should be identified in order to trace the impact of unions.

Union power refers to the capacity of the union sector to establish, with a given degree of militancy and on the basis of unionization alone, a wage differential W_u/W_{nu}. This differential is a reflection of the degree of monopoly power inherent in unionization. The evidence shows that this differential is not constant. It varies primarily with cyclical conditions, widening in periods of recession and narrowing in periods of boom. As noted earlier the ratio is affected also by the other factors of past and expected price changes and by a probably different response of the union and nonunion sectors to changes in relative wages.

Cross section point-in-time studies have tended to ignore these other factors in part because, until recent years, price changes were small, possibly less than some threshold amount, and because relative wage movements have been cyclically compensated for, and either secularly minor or less than some threshold amount. Thus, earlier studies have tended to show union power as measured by the W_u/W_{nu} ratio varying according to prevailing conditions of excess demand.

In a recent article, Brian Griffiths summarizes the results of some of these studies:

"The seminal work in estimating the impact of how much more union members receive that comparable nonunion laborers was undertaken by H.G. Lewis at the University of Chicago [x]. He found that the effects of unions on the average wage of union labor compared to the average nonunion wage range from 25 percent or more in the 1930's to less than 8 percent immediately after the Second World War, and rose to around 15 percent by the second half of the 1950's. Studies in the U.S.

27 M. FRIEDMAN, *Unemployment Versus Inflation: An Evaluation of the Phillips Curve,* London, Institute of Economic Affairs, 1975, p. 33.

since then using other evidence have all shown a significant effect. Using 1960 census data, Lewis found that wages of male operatives and craftsmen were about 20 percent higher than comparable nonunion rates [x]; Stafford, using Survey of Consumer Finance data, found it varied between 18 and 52 percent [x]; Throop, using aggregate industry data, found it 25 percent in 1950 and 30 percent in 1960 [x]; using disaggregated data it was found that in highly unionized industries it was 38 percent while in highly non-unionized industries only 10 percent; and others have found that the differential decline with education is greater for younger — and older — age categories than for middle-age categories and greater for black than white workers.»[28]

Looked at over time the movement of W_u/W_{nu} would be seen as a differential response of union wages and nonunion wages to changing conditions of excess demand. Several studies have examined the responsiveness of $\dot{W}_u/\dot{W}_{nu}$ to varying levels of excess demand (as denoted by the level of profits or unemployment), or to changes in the levels of excess demand. They have tended to find W_u less responsive to these variables — a finding that suggests the greater cyclical amplitude of W_{nu}.

Is there a trend in W_u/W_{nu}? Several indices are available which directly or indirectly measure changes in this differential over time. But the evidence is conflicting.

1. A wage dispersion index which measures the dispersion among average earnings by industry, but without a corresponding linking of those earnings with a unionization index. (See Figure 3.)

Throop[29], Wachter[30], and Kosters[31] would have us believe that the equilibrium standard deviation is that which prevailed in the 1950's, or the early 1970's. Throop describes the widening dispersion of the late 1950's as a continuing response to the differential narrowing that had occurred during World War II and the lagged response of wage dispersion to the unfulfilled new unionism of the war and postwar years. Kosters describes the widening dispersion in 1969-72 as a lagged response to the inordinate narrowing of the 1960s. Wachter also attributes the widening during those years to the interplay of market forces, and states that this is not to be described as a "cost push" experience.

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28 B. GRIFFITHS, "Economics of Labour Power: Can Labour Unions Raise Real Wages?", in A. Seldon (Ed.), *Trade Unions: Public Goods or Public Bads,* London, The Institute of Economic Affairs, 1978, pp. 197-8.

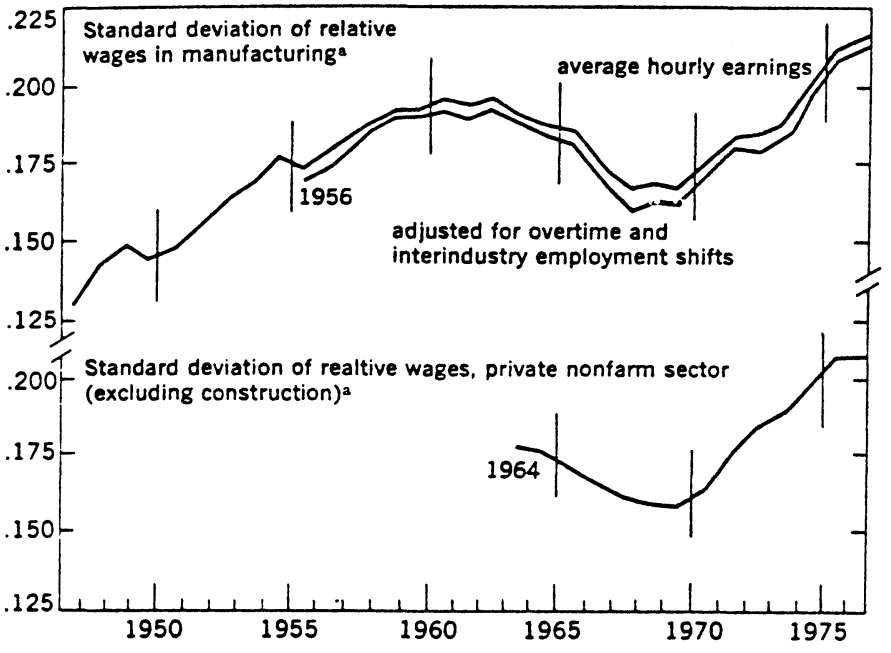
29 A.W. THROOP, "The Union-Nonunion Wage Differential and Cost-Push Inflation", *American Economic Review,* LVIII, 1, March 1968, pp. 90-1.

30 M. WACHTER, "The Current Wage Controls: An Evaluation of Phase II", *Wharton Quarterly,* VII, 1, Fall 1972, p. 32.

31 M. KOSTERS, "Wage Behavior in the 1970's", in W. Fellner (Ed.), *Contemporary Economic Problem,* Washington, D.C., American Enterprise Institute, 1978, p. 149.

FIGURE 3

Changes in Relative Earnings and Unemployment



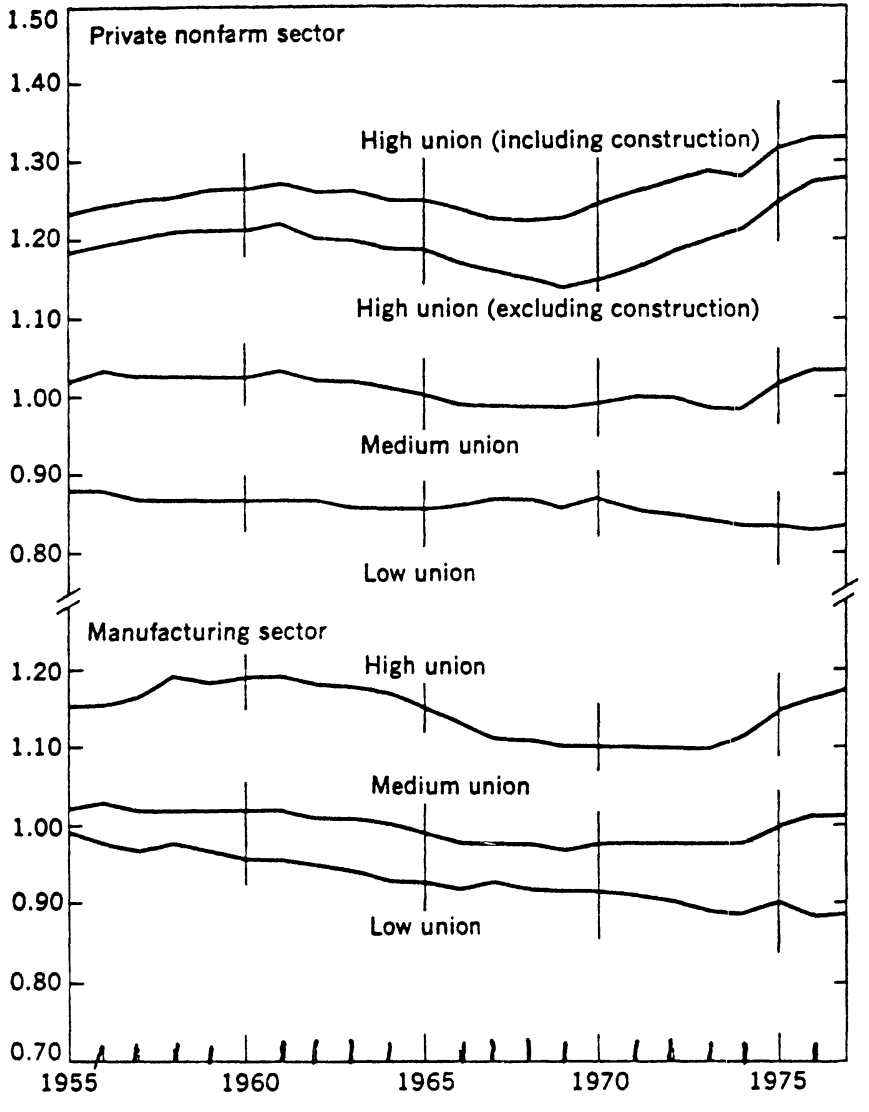
Source: M. KOSTERS, "Wage Behavior in the 1970's" in W. Fellner, *Contemporary Economic Problems,* Washington, D.C., American Enterprise Institute, 1978, p. 147.

Taken alone the discussion is not convincing. Clearly if we relied only on this measure, we would have to conclude that there is a trend in the dispersion. It must be repeated, however, that this index does not have an explicit union dimension.

2. A measure which plots over time the ratio of industry wages by extent of unionization to the average hourly earnings in the private nonfarm sector. The picture we get from this comparative study is one which shows virtually no trend. (See Figure 4.)

FIGURE 4

Average Hourly Earnings Ratios by Extent of Unionism, 1955-1977



Note: These ratios are averages of ratios of average hourly earnings for each industry in the categories shown to average hourly earnings in the private nonfarm sector. Ratios for manufacturing industries are based on data adjusted for overtime.

Source: M. KOSTERS, *op. cit.*, p. 148.

Without implying a prejudice towards showing that the path which is displayed in this figure understates the influence of unionism, it is not amiss to point out that this figure relates only to wages. It is not a measure of compensation. In the early 1960's there was considerable interest in union circles in the dangers of technological displacement. This resulted in three years of inordinately low union wage increases, prompted by the absence of a general wage increase in steel in 1962, in steel and aluminum in 1963, and in auto manufacturing in 1964.

That the fortunes of different groups vary in terms of their status on this ratio scale is evident from the following quotation from a report by the Council on Wage and Price Stability in 1978.

> An examination of the wage rates of various subgroups of workers indicates that significant changes have occurred in the wage structure of American industry. For exemple, steelworkers' hourly earnings were about 35 percent above the private nonfarm average in 1967, but were about 65 percent above the average in 1977. A similar rise in relative wages is evident in other basic industries. On the other hand, wages for workers in the apparel and other textile industries were 24 percent below the private nonfarm average in 1967, and about 31 percent below the average in 1977. At the beginning of the last recession in 1973, wages in contract construction were significantly above those in coal mining and steel, but in 1977, the average construction wage was below that of coal miners and steelworkers. The change in relative of construction workers resulted largely from the severe impact of the recession on the construction industry and competition from nonunion contractors[32].

It would be highly unlikely that the product market alone explains the pattern that appears from examining individual industries as shown in Figure 5. Certain groups of workers have been better able to protect themselves from real wage erosion during the 1970's[33]. At least a part of this immunity derives from labor market control through strong unionism. However, as Walter Fogel observes, a further part derives from product market imperfection. In his words, "... a number of noncompetitive industries do not resist uneconomic wage demands because the resultant cost increases support pricing behavior which maximises short-run profits, and the long-

32 Executive Office of the President, *A Quarterly Report of the Council on Wage and Price Stability, with a Special Report on Inflation,* Washington, D.C., 1978, COWPS Report Number 13, p. 40.

33 This statement does not imply that the most advantaged groups have secured complete protection from real wage erosion in the sense of maintaining or increasing real spendable earnings through cost-of-living protection clauses or provisions. But the relative advantage is not minor. At the steelworkers' hourly earnings in 1968 of $3.82, a constant ratio of 1.52 to the nonagricultural average hourly earnings would make a difference in the 1978 average annual gross earnings of $2,246, assuming a 40-hour week, 52-week year.

run problems are thought to be better dealt with at a governmental level."[34] Thus an appropriate remedy would have to deal with this problem at both levels.

3. A third measure of union power is that reflected in wage changes each year in the union and nonunion sectors. Table 1 allows us to compare changes in union and nonunion wages for production workers in U.S. manufacturing. There are ambiguities in these kinds of measures. Foremost among them is the fact that a division by union/nonunion status alone suggests that the different outcomes are attributable only to that union/nonunion division. This is not necessarily true. Unionism is correlated with many factors which have a wage change impact — the industry concentration ratio, industry location, initial wage level, the proportion of females in the industry employment, the capital/labor ratio, the average size of establishment, the proportion of fringe benefit cost to total employee compensation. By way of example, Steven Lustgarten shows how wage increases are associated positively with the industry concentration ratio, but since labor productivity increases are also associated positively with that ratio, the tendency is for concentration to be inversely associated with changes in unit labor costs and hence with the size of price increases[35]. We have strong reasons to believe that these factors affect the cyclical sensitivity of wage changes, and it has not been disproved that they have an effect on the secular trend of wage changes also.

While the question of causation may be arguable, Mitchell does accept that the divergence is union-based[36]. He argues that the increasing divergence of union/nonunion wages may well explain the hardening resistance of managements to unionism. This is reflected in the declining success rate of unions in National Labor Relations Board elections, the declining unionization rate in the total labor force, the accelerated movements of industry in the 1960's and 1970's to the less union-prone South, and the large number of wage concessions which are a current feature of widespread agreement reopenings[37].

34 W.A. FOGEL, Discussion of M.H. Kosters, "Relative Wages and Inflation", Annual Proceedings of the Industrial Relations Research Association, 30th Meeting, 1977, p. 216; and A.G. SHILLING, "American Labor-From Cartels to Competition", *Wall Street Journal,* January 21, 1982, p. 26.

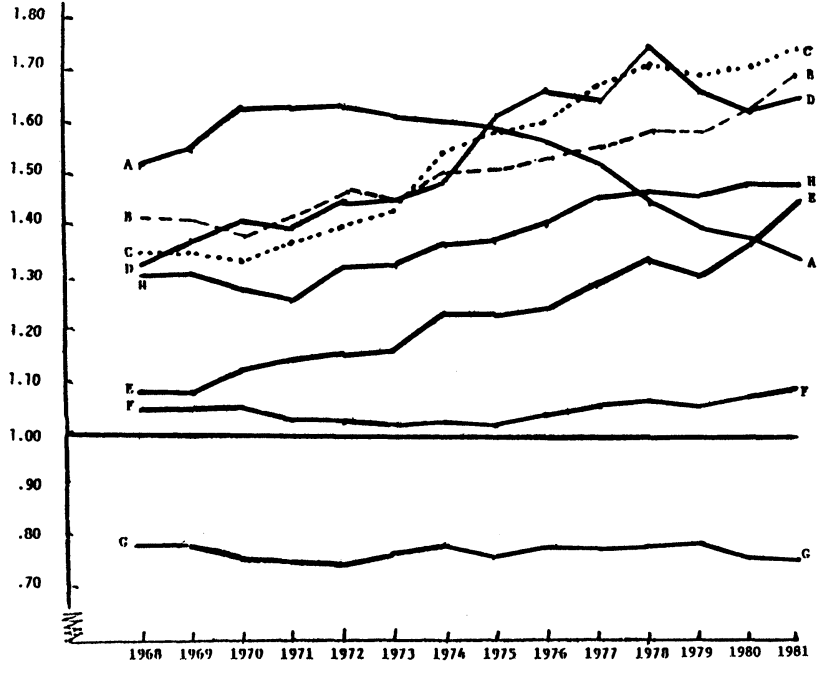
35 S. LUSTGARTEN, *Industrial Concentration and Inflation,* Washington, D.C., American Enterprise Institute, 1975, pp. 29-32.

36 D.J.B. MITCHELL, "Some Empirical Observations of Relevance to the Analysis of Union Wage Determination", *Journal of Labor Research,* 1, 2, Fall 1980, pp. 199-201.

37 W. SERRIN, "Unions Yielding Givebacks to Employers at Rising Rates", *New York Times,* Oct. 11, 1981, pp. 1 and 13; J. GUYON, "Local Unions Accept Pay and Benefit Cuts to Try to Rescue Jobs", *Wall Street Journal,* Dec. 17, 1981, pp. 1 and 18.

FIGURE 5

Average Hourly Earnings Ratios, Production and Nonsupervisory Workers in Selected Industry Groups to Private Nonagricultural Payrolls



A = General Building Contractors: SIC 15
B = Motor Vehicles: SIC 3711
C = Blast Furnace and Basic Steel Products: SIC 331
D = Bituminous and Lignite Mining: SIC 12
E = Cigarettes: SIC 211
F = Electrical Industrial Apparatus: SIC 362
G = Textile Mill Products: SIC 22
H = Intercity Highway Transportation: SIC 413
(Industry data are for September of each year)

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings.*

A different argument over causality is the view that unionism itself is endogenous with respect to relative wages. Gregg Lewis (1959)[38] and Reder[39] raised this possibility. Since that time other writers have attempted to establish and quantify this relationship. Parsley (1980) describes the studies by Ashenfelter and Johnson[40] (1972), Schmidt and Strauss[41] (1976) and Lee[42] (1976) which confirm that unionism is not independent of wage changes. Maki and Christensen[43] find that after allowing for the effect of higher wages on union coverage, the effect of union coverage on wages is still very substantial. Their study does not allow for the many other factors which we know to be associated with unionism, nor does it address itself specifically to wage changes. Thus the ambiguity of what precisely is being measured when we speak of union power would appear to be still in need of identification. It would not be amiss to point out however that in the United States if the causality runs from earnings to union membership the growing divergence reflected in Table 1 would suggest an increasing differential while the percentage of the labor force unionized continues to decline.

UNION MILITANCY

Union militancy can be defined as the propensity of a union to press for advantage in bargaining, given the magnitude of the factors which determine union power. The degree of union militancy is the extent to which a given degree of power provides a bargaining advantage. The two variables are not always independent. For example, the militancy of the U.S. coal miners in 1978 was in part a result of the breakdown in the union's internal administrative machinery; union militancy may be a response to some adverse legislative or judicial decision. On the other hand, there are clear instances where spontaneous militancy erupts as for example on an international scale in 1968, and in Britain in early 1979. These are times when, as

38 H. Gregg LEWIS, "Competitive and Monopoly Unionism", in P.D. Bradley (Ed.), *The Public Stake in Union Power,* Charlottesville, University of Virginia Press, 1959, pp. 190-2.

39 M.W. REDER, "Unions and Wages: The Problem of Measurement", *Journal of Political Economy,* 73, April 1965, p. 192.

40 O. ASHENFELTER and G.E. JOHNSON, "Unionism, Relative Wages, and Labor Quality in U.S. Manufacturing Industries", *International Economic Review,* 13, 3, October 1972.

41 P. SCHMIDT and R.P. STRAUSS, "The Effect of Unions on Earnings and Earnings on Unions: A Mixed Logit Approach", *International Economic Review,* 17, 1, February 1976.

42 Lee LUNG-FEI, "Unionism and Wage Rates: A Simultaneous Equations Model with Qualitative and Limited Dependent Variables", mimeo, University of Florida, 1976.

43 D. MAKI and S. CHRISTENSEN, "The Union Wage Effect Re-Examined", *Relations industrielles,* 35, 2, 1980.

TABLE 1

Current and Effective Wages Changes for Production Workers in Manufacturing (1959-1977)

I. Current Wage Changes 1959-1977 (Δ = change) *Production Workers in Manufacturing*

	1959	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
a) Median Increases — Annual % Δ (Wage Increases resulting from current settlements or decisions)																				
All union	3.7	3.5	2.5	2.9	2.9	2.5	3.6	4.1	5.5	6.5	6.9	7.4	8.4	5.5	5.8	7.6	8.6	8.3	8.3	8.0
Non union	4.4	3.8	3.4	3.2	3.6	3.2	4.0	4.4	5.0	5.0	6.0	5.8	5.5	5.1	6.0	8.6	6.9	7.0	7.0	7.5
b) Median Adjustments Actual % Δ (Wage adjustments including decisions for no change)																				
All union	3.4	3.4	2.5	2.5	2.6	2.3	3.4	4.0	5.5	6.4	6.9	7.3	8.2	5.5	5.7	7.5	8.6	8.3	8.3	8.0
Non union	3.2	2.2	1.2	1.6	2.8	2.0	3.2	3.7	4.4	5.0	5.1	5.0	4.7	5.0	5.5	8.0	6.0	6.5	6.5	7.0
c) Workers receiving increases as % of workers subject to wage decision																				
All union	93.7	93.1	89.5	74.4	77.3	89.3	92.5	96.1	98.4	99.3	98.9	98.1	98.3	97.8	98.7	98.3	98.6	99.2	96.9	97.4
Non union	66.5	56.8	52.8	53.2	69.2	55.5	75.3	77.3	80.8	87.0	75.8	76.7	69.6	82.9	98.8	87.4	92.3	96.4	94.6	88.0

II. Effective Wage Changes 1959-1977 *Production Workers in Manufacturing*

a) Median Increases — Annual % Δ (Wage Δ s including curr. increases, deferred increases, and COLAs)																				
All union	3.6	3.6	3.0	3.0	3.0	2.6	3.2	3.8	3.9	5.1	5.0	5.9	6.2	5.4	6.3	8.1	8.4	7.8	8.0	8.3
Non union	4.3	3.8	3.3	3.2	3.7	3.2	4.0	4.5	4.8	5.0	6.0	5.9	5.5	5.2	6.0	8.7	6.9	7.0	7.1	7.5
b) Median Adjustments — Actual % Δ (Wage Δ s including decisions for no change)																				
All union	3.4	3.4	2.7	2.6	2.6	2.2	2.9	3.2	4.0	5.0	5.0	5.7	6.1	5.2	6.2	8.0	8.2	7.7	8.0	8.3
Non union	3.3	2.5	1.0	1.6	2.8	2.0	3.2	3.9	4.6	5.0	5.1	5.1	4.7	5.0	5.6	8.0	6.3	6.5	6.5	7.2

Sources: M. ESTEY, "Union and Nonunion Wage Changes 1959-1972", in *Price and Wage Control: An Evaluation of Current Policies,* Hearings before the Joint Economic Committee, Congress of the United States, 92nd Congress, 2 Session Part 2, Washington, D.C., U.S. Government Printing Office, 1972, pp. 323-31.

U.S. Department of Labor, Bureau of Labor Statistics, *Current Wage Developments,* May 1981, p. 50, Tables 1, 2, 3, 4.

Phelps Brown wisely says in his cost-push explanation of the 1968 pay explosion, "whatever the monetary supply, an explosion, ... in which pay continued to be pushed up while business confidence waned and unemployment mounted, could not have occurred without a deepgoing change in attitudes and expectations."[44]

Obviously if these periods arise and there is an accommodative monetary-fiscal policy together with some spillover mechanism, the unions could initiate a wage-price spiral. Evidence seems to suggest that the spillover is positive but less than complete, so that spontaneous bursts of militancy may establish positions of wage advantage — which will be eroded over time as other sectors display militant moods.

As for the monetary-fiscal mechanism, the tendency has been for this to be accommodative. Whether money does matter but is difficult to control, or money does not matter anyway, another wise statement by Phelps Brown expresses his view that "... 'the struggle against inflation' would be needless if all that had to be done was to regulate the quantity of money."[45] In his view, inflation arises from costs, especially wage costs, and the control of inflation must ultimately rest on developing an appropriate wage policy.

Some studies have used union militancy in a different sense from that outlined above. They have defined union militancy as a dimension of union power. Union militancy and hence union power vary directly with some quantified pre-selected variable which serves as a proxy for union militancy. Examples of such proxies are the incidence of strike activity, the proportion of the labor force organized in unions, or the rate of change of that proportion.

The most celebrated article in this group of studies is the 1964 study by A.G. Hines[46]. The estimated equation on which he bases his justification of the union militancy hypothesis is the following:

$$\Delta W_t = -3.2656 + 2.7022\ T_E + 0.1872\ T_E$$
$$(0.1782) \qquad (0.0304)$$
$$R^2 = 0.8240$$
$$\overline{R}^2 = 0.8130\ (R^2 \text{ corrected for d.f.})$$
$$DW = 1.21$$

44 E.H. Phelps BROWN, "A Non-Monetarist View of the Pay Explosion", *The Three Banks Review,* No. 105, March 1975, p. 20.

45 E.H. Phelps BROWN and S.A. OZGA, "Economic Growth and the Price Level", *The Economic Journal,* 65, March 1955, p. 15.

46 A.G. HINES, "Trade Unions and Wage Inflation in the United Kingdom 1893-1961", *Review of Economic Studies,* 31, 4, No. 88, October 1964.

where ΔT_E is the ratio of change in the percentage of the labor force unionized and T_E is the percentage of the labor force unionized[47].

The study has been heavily criticized, particularly in a brilliant article by Purdy and Zis[48]. But Hines has persisted in his claim that this equation forms the basis of a belief that the process of wage inflation is essentially a "cost-push" phenomenon.

The Hines thesis as developed in the 1964 and several later supportive Hines studies, has proved to be remarkably robust. In 1972 a study by Ashenfelter, Johnson and Pencavel[49] found a similar model giving significant results for United States manufacturing. An equation supports the thesis that unionization is a significant determinant of the aggregate wage change process

$$\Delta W_{agg} = \underset{(1.048)}{4.014} - \underset{(0.128)}{0.448UN_t} + \underset{(0.186)}{0.486\Delta P_t} + \underset{(3.042)}{11.130\ N} + \underset{(0.112)}{0.420\Delta T_t} + \underset{(0.201)}{0.439S_t}$$

$$R^2 = 0.833;\ DW = 2.14;\ SEE = 3.46$$

where Δ W agg is the change in the aggregate manufacturing money wage level, N is a New Deal dummy, UN_t is the current unemployment rate, ΔP_t is the economy-wide rate of change in consumer prices, ΔT_t is the change in union membership (percent) and S_t is a scaled ratio of work stoppages to union membership. Figures in parentheses are standard errors of the coefficients[50].

From this and some broadly similar estimates the authors conclude that union pressure as reflected in the rate of change of union membership and the strike incidence among union members is an independent factor in the aggregate money wage change process.

47 *Ibid.*, p. 228.

48 D.L. PURDY and G. ZIS, "Trade Unions and Wage Inflation in the U.K.: A Reappraisal", in D. Laidler and D.C. Purdy, *Inflation and Labour Markets,* Manchester, U.K., Manchester University Press, 1974.

49 O.C. ASHENFELTER, G.E. JOHNSON and J.H. PENCAVEL, "Trade Unions and the Rate of Change of Money Wages in United States Manufacturing Industry", *Review of Economic Studies,* 39, 1, January 1972.

50 *Ibid.*, p. 40.

In 1972 also, Swidinsky used time lost in industrial disputes as an alternative measure of union aggressiveness[51]. He appears not to distinguish between union power and union militancy, but his results do show a significant relation between work stoppages and the rate of wage change for all manufacturing in Canada over the period 1953 to 1970. A variant of his model gives the following results:

$$dW_t = \underset{(0.04)}{-0.042} + \underset{(9.32)}{0.731}\, PR_t + \underset{(5.21)}{19.180}\, \overline{UN}_t^{-2} + \underset{(1.07)}{0.010}\, II_{t-2}$$

$$+ \underset{(7.23)}{3.330} TL_{t-1} \underset{(1.34)}{-0.007}\, dW_{t-4}$$

$$R^2 = 0.919 \qquad DW = 1.308$$

In this model PR_t is change in the consumer price index over the past four quarters, UN_t is the aggregate unemployment rate in the current quarter, II_t is an index of current corporate profits in manufacturing before tax, TL_{t-1} is the time loss per production employee in manufacturing in the previous quarter and dW_{t-4} is the rate of change of wages one year back[52].

These studies do not purport to be pure cost-push studies of the kind portrayed by Hines. Generally, they suggest that wage movements are the result of a variety of pressures, including changes in the price level, and the unemployment rate. However, they do find that measures of union militancy do exercise some influence on the rate of wage change. An interesting variant of these studies is the article by Riddell (1980) in which both the strike action and strike length are shown to have a significant relation with the rate of wage change[53].

Like Hines, Swidinsky shows that his chosen measure of union militancy, Δ T for Hines and TL_{t-1} for Swidinsky, is unrelated to the level of economic activity. Purdy and Zis are sceptical on this point, insisting that there is "ample evidence" both for the U.S.A. and the U.K. of a positive association between the levels of strike activity and excess demand[54].

Moreover, such studies tend to ignore the fact that strikes are at least partly a function of employer militancy. Some evidence exists that interin-

51 R. SWIDINSKY, "Trade Unions and the Rate of Change of Money Wages in Canada, 1953-1970", *Industrial and Labor Relations Review,* 25, 3, April 1972.

52 *Ibid.,* p. 370.

53 C.W. RIDDELL, "The Effects of Strikes and Strike Length on Negotiated Wage Settlements", *Relations industrielles,* 35, 1, 1980.

54 D.L. PURDY and G. ZIS, *op. cit.,* p. 58.

dustrial variations in wage changes are best explained by differences in management resistance factors than in union pressure variations[55]. More important as a criticism of the Hines model is the fact that Hines' regression does not rule out reverse causality — that W^u rises for any reason and that this attracts new members, or that W^{nu} rises for any reason and this is followed by an increase in union membership. This is, of course, a different kind of argument from that which we described earlier as a possible failing of the union power thesis. Here the argument is that workers who know that a large wage increase claim is in the offing will join the union. To what extent this criticism is destructive of Hines' thesis is not clear at this time, mainly because data on changes in union membership are not available in the form and frequency that would allow an adequate test of this criticism.

WHAT DO WE KNOW?

1. Union wages are less sensitive to current employment than are nonunion wages. Since the unemployment rate tends to change over time — i.e., the conditions of excess demand vary cyclically — the cyclical amplitude of union wage changes is less than that of nonunion wage changes[56].

While this is partly a result of union contracts tending to be multi-year contracts, it is also true of first year increases. Since the first-year increases are almost invariably higher than the increases in the nonunion sector (taking into account the no-change as well as actual increases) this might be presumed to show that union wages at any level of unemployment increase faster than nonunion wages.

This argument has to be qualified in three ways:

1. The first year increases may reflect previous price changes,
2. They may reflect responses to past changes in relative wages,
3. The trend of increases may be set by other labor force characteristics than unionism — e.g., concentration, higher trend productivity growth,
4. We have no data on fringe benefits, and in the early 1960s the seeming disadvantage of unions reflects their interest in programs of job and income security.

55 D. SINGH, C.G. WILLIAMS and R. WILDER, "Wage Determination in U.S. Manufacturing, 1958-1976 — A Collective Bargaining Approach", *Journal of Labor Research,* forthcoming and D.J.B. MITCHELL, *Unions, Wages, and Inflation,* Washington, D.C., Brookings Institution, 1980, p. 72.

56 G.E. JOHNSON, "Economic Analysis of Trade Unionism", *American Economic Review,* LXV, 2, May 1975, pp. 26-7.

2. Union wages tend to be more sensitive to price changes than are nonunion wages. But this too may be true only as escalator clauses are introduced and as their protective coverage widens. However, even after more than a decade of substantial inflation COLA clauses fall far short of providing complete protection. Vroman (1981) shows that for units representing about 3 million workers in major bargaining situations in U.S. manufacturing, inflation protection by COLA clauses in January 1980 was roughly 50 percent. Some 96 percent of steelworkers were protected by COLA clauses which provided an average cost of living protection in 66 percent. The autoworkers and machinists in the study had a protection rate of 62 percent, electrical workers 35 percent, and the remaining work force covered by the study 17 percent[57].

As escalators become more widespread and effective they tend to reduce base rate increases. However, there is a tendency for this offset to be less than complete. As between collective bargaining settlements, negotiated increases tend to be less in the presence of COLA clauses but actual earnings increases tend to be greater[58], and as between union and nonunion adjustments the union increases tend always to exceed the nonunion[59].

3. Both union and nonunion wages are sensitive to their relative status. As to the absolute and relative degrees of sensitivity the evidence is far from conclusive. The widening of inter-industrial differentials in the late 1950s (i.e., the standard deviation of manufacturing wages) was said to be due to the slow response of union wages to the controls of the World War II and the new power structure implicit in the spread of unionism in the 1940s and early 1950s[60]. The front-end loading of 1969-71 was said to be a response to the narrowing of the structure in the tight labor markets of 1966-69[61].

But nonunion wages do not get far out of line. Several studies have tested the "spillover" hypothesis and found the union wage change to be a significant variable in the nonunion change[62].

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57 Wayne VROMAN, "The Responsiveness of Money Wage Rates to Price Changes", *The Urban Institute,* mimeo, October 1981, p. 14.

58 The Conference Board, "Trends in Wages", Economic Road Maps No. 1865, October 1979.

59 D.J.B. MITCHELL, "Some Empirical Observations of Relevance to the Analysis of Wage Determination", *op. cit.,* p. 199.

60 A.W. THROOP, *op. cit.*

61 L.D. TAYLOR, S.J. TURNOVSKY and T.A. WILSON, *The Inflationary Process in North American Manufacturing,* Toronto, Institute for the Analysis of Social and Economic Policy, University of Toronto, 1972.

62 J. EATWELL, J. LLEWELLYN and R. TARLING, "Money Wage Inflation in Industrial Countries", *Review of Economic Studies,* 41, 4, No. 128, October 1974.

The Council on Wage and Price Stability asserts this to be the operative mechanism in wage change. They estimate the effects of the unemployment rate and the union effective wage change on the percentage change in average hourly earnings for the private nonfarm economy to be as follows:

$$\%\Delta HEI = -.38 + 6.16\,\frac{1}{u} + .84\,(\%\Delta UEW)$$
$$(.52)\quad (2.11)^{*}\quad (14.06)^{*}$$
$$R^2 = .9212 \qquad DW = 2.44$$

(t ratios in parentheses; * significant at .05 levels)[63].

The equation indicates a strong link between union wage rates and the wages of the rest of the economy. Assuming union wages to be about 40% of total paid nonfarm wages this equation estimates the spillover at about .75 of the union wage change.

However, there is at least some evidence that there is some resiliency to the structure and a general force acting against an ever-increasing wage structure distortion process. Mitchell claims to have evidence that new settlements tend to be smaller than predicted if the relative wage is above the accepted level and a little bigger if "out-of-line"[64]. Both Flanagan[65] and Johnson[66] in separate studies find that the spillover is from the nonunion sector to the union sector — thus supporting a wage trend argument that inflation comes from the nonunion sector and that unions are essentially a response institution.

4. It is important that we distinguish between unions when we consider how various groups fare in different circumstances, particularly those of adversity. In particular, when prices are rising rapidly, a group that negotiates a fully compensatory COLA contract cannot fail to draw away from groups which are not fully protected. We have seen a possibility that protection may reduce contracted increases, and that a "no-protection" condition will result in some protection via contract increases. However, these are not fully offsetting conditions, and a period of rapid inflation undoubtedly leads to the COLA average providing fuller benefits. This seems to be an additional problem that rapid inflation generates, a condition which be-

63 Executive Office of the President, *op. cit.*, pp. 45-6.

64 D.J.B. MITCHELL, "Union Wage Determination: Policy Implications and Outlook", *Brookings Economic Papers on Economic Activity*, 3, 1978, pp. 567-8.

65 R.J. FLANAGAN, "Wage Interdependence in Unionized Labor Markets", *Brookings Papers on Economic Activity*, 3, 1976.

66 G.E. JOHNSON, "The Determination of Wages in the Union and Nonunion Sectors", *British Journal of Industrial Relations*, XV, 2, July 1977.

comes increasingly acute because of the problem of relativity distortions which it carries into the subsequent recession — setting the stage for renewed inflation when the economy moves upward again.

As we look back over the years of writing on the role of unions in inflation, it is obvious that our understanding of the wage process has increased. But there is still disagreement over even fundamental details. What, for example, is the precise distribution of the influences of unemployment, changes in unemployment, past price changes, expected price changes, relative wages on union and nonunion wages? How stable are these relationships? Within the structures of union wage changes and of nonunion wage changes what factors determine variations in these relationships?

On this point we can return to the discussion between Wachter and Mitchell with which we began. In his article (1978) Mitchell has stressed the insensitivity of union wages to unemployment and to business conditions generally. Hence he expresses deep pessimism about the role of monetary/fiscal policy in controlling inflation. Wachter, however, is optimistic. He is sure that union wages are sensitive to unemployment and to prices. Since prices respond to money supply then demand management should have no problem with controlling wage inflation. To Wachter the devil is the money supply, to Mitchell it is wages, both union and nonunion. To that extent at least we have not progressed much since the Friedman of 1951 and the Phelps Brown et al. of 1955. What role unions might have as political pressure groups in determining the money supply is a separate issue. We have not looked at this aspect of unionism. Clearly in this respect unions, if they redistribute income at all, are only part of a whole structure of pressure groups affecting monetary and budgetary processes, and hence indirectly the distribution of real income[67].

Les syndicats et l'inflation

Il existe de grandes divergences de vues sur le rôle des syndicats dans l'inflation. À une extrémité, on trouve des auteurs comme Haberler, Joan Robinson, Phelps Brown, Hicks, James Meade et Hayek parmi les penseurs des générations passées et, plus près de nous Weintraub, Mitchell, Eckstein, Hines et Ashenfelter. Ceux-ci croient unanimement que l'influence des syndicats sur l'évolution des hausses de salaires est exogène. À l'opposé, il y a des auteurs comme Friedman parmi ceux qui ont abordé la question dans beaucoup de situations économiques diverses depuis la deuxième guerre mondiale et Wachter chez les économistes plus jeunes. Ces derniers

67 This issue, though restricted to the United Kingdom, is discussed at length in John T. ADDISON, "Unions and Inflation", in *Trade Unions and Society: Some Lessons from the British Experience,* Vancouver, B.C., The Fraser Institute, 1982.

ont tendance à considérer que les syndicats sont des institutions qui réagissent aux situations. Pour eux, l'inflation résulterait de politiques monétaires et fiscales qui sont incompatibles avec des prix stables. Les syndicats deviennent alors partie du contexte dans lequel ces politiques secrètent leurs conséquences inflationnistes.

La présente étude décrit le large éventail de points de vue que ces auteurs ont exprimés sur le rôle des syndicats en tant que responsable de l'inflation et sur leurs réactions vis-à-vis celle-ci. Un système de classification, qui a été suggéré par J.S. Trevithick et C. Mulvey dans *The Economics of Inflation,* y est utilisé pour diviser les auteurs par catégorie. D'une façon générale, la classification est restreinte à la réaction des syndicats aux diverses conditions de l'excès de la demande et aux conséquences qui en résultent sur le processus de l'inflation.

L'étude s'efforce ensuite de décrire les moyens par lesquels les auteurs ont mesuré le pouvoir des syndicats tel que cela est reflété dans les écarts salariaux entre syndiqués et non syndiqués. En premier lieu, elle explique les exposés dans lesquels on a utilisé un indice de dispersion des salaires pour mesurer cette dispersion parmi les gains moyens par industrie. Le but de ces exposés est d'identifier les tendances possibles dans la dispersion des salaires de façon à relier indirectement chacune des tendances que l'on a pu déceler là où elles étaient réglées par les syndicats. On y a trouvé une nette tendance à la hausse dans l'indice de dispersion, mais son rattachement au rôle des syndicats n'est pas satisfaisant. Un deuxième indice consiste dans une mesure qui trace le rapport des gains industriels attribuables à l'importance de la syndicalisation en regard des gains horaires moyens dans le secteur privé non agricole. On n'observe aucune tendance marquée dans cette mesure, même si celle-ci montre des changements significatifs pour quelques sous-groupes de travailleurs. Au cours de la décennie 1970, l'expérience varie beaucoup: un diagramme illustrant le rapport des gains horaires moyens pour les industries sélectionnées en regard des gains privés non agricoles présente une étonnante diversité. Une troisième mesure décrit les changements de salaires effectifs entre les salaires des travailleurs syndiqués et des travailleurs non syndiqués tels que catalogués par le Bureau des statistiques du travail dans son enquête sur le *Current Wage Development.* Celle-ci indique un avantage constant en faveur des travailleurs syndiqués. Des réserves doivent être apportées pour ce qui doit être mesuré par ces statistiques et pour la signification que l'on trouve dans des études récentes sur les caractéristiques exogènes ou endogènes des syndicats.

Les études sur le militantisme des syndicats en tant qu'aspect distinct de leur rôle sont ensuite discutées et évaluées. On y découvre que Hines, Ashenfelter et autres de même que Swidinsky ont contribué d'une façon significative à ce débat, mais que leurs découvertes sont marquées par la préoccupation de ce qui est mesuré, par exemple, la résistance des employeurs et le militantisme des syndicats d'une part et, d'autre part, la réaction des membres et le militantisme des syndicats tels que décrits par Hines dans son travail originaire.

L'article conclut par la discussion de ce que nous savons au sujet des rapports entre les syndicats et l'inflation. Il se termine sur une note sceptique. Malgré qu'un grand effort ait été déployé, on ignore même les données de base. Les grands problèmes d'identification restent encore à résoudre.